

REMARKS

The present application includes claims 1-20. Claims 1-20 were rejected by the Examiner.

Claims 1-3, 5, 7-10, 12, 14-17, and 19 were rejected under 35 U.S.C. 102(a) as being anticipated by the Huang textbook.

Claims 4, 6, 11, 13, 18, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Huang textbook in view of Takeo, U.S. Patent No. 6,231,246.

The Applicants first turn to the Examiner's rejection of claims 1-3, 5, 7-10, 12, 14-17, and 19 over Huang. The Huang text relates to a Picture Archiving and Communication System ("PACS"). The PACS system mentioned in Huang uses an acquisition gateway between the imaging modality and the PACS network (pg. 177). The acquisition gateway preprocesses the raw image data obtained from the imaging modality before the data is stored on the PACS network (pp. 177-180, pp. 219-231).

The acquisition gateway of Huang "must perform certain image preprocessing functions before images are sent to the PACS controller or workstations." (pg. 219). As described in Huang, "certain image preprocessing functions" corresponds to all preprocessing functions for a given modality (Section 8.7, beginning on page 219). Even the lookup table for CR image preprocessing is "built in and inserted into the image header" prior to storage (pg. 223). Thus, the raw image data is fully preprocessed before being stored as preprocessed image data on the PACS network for retrieval and display at

a display workstation (pp. 177-180 and Sections 8.7-8.8). In Huang, the preprocessing functions that are going to be applied to the raw image data have been applied or inserted into the preprocessed image data that is stored in the PACS.

Certain embodiments of the present invention partially preprocess raw image data prior to storing the data in a PACS network. Raw image data from an imaging modality is received from an imaging modality. At least one but not all preprocessing functions are applied to the raw image data. The partially preprocessed image data may then be transmitted to a PACS network for storage in a preprocessing database.

The PACS network of Huang does not teach partially preprocessing raw image data using at least one and fewer than all of the applicable preprocessing functions. This limitation is recited in independent claims 1, 7, and 14 of the present application. Conversely, the system of Huang applies all applicable preprocessing functions to the raw image data at the acquisition gateway. Additionally, Huang does not teach a preprocessing database for storing partially preprocessed image data. This limitation is recited in independent claims 1, 7, and 14 of the present application. Rather, Huang transmits the fully preprocessed data to a PACS controller or workstation (pg. 219). Therefore, the Applicant respectfully submits that the independent claims of the present application are allowable.

Furthermore, the Applicant respectfully submits that the dependent claims of the present application are allowable. As described above, Huang does not teach the limitations of the independent claims. Accordingly, Huang also does not teach all of the limitations of the dependent claims of the present application. Additionally, for example,

Huang does not teach selecting at least one preprocessing function based on an anatomical region. This limitation is recited in claims 8 and 15. Rather, Huang applies preprocessing functions based on imaging modality (pg. 219).

Thus, the Applicant respectfully submits that the claims of the present application are allowable over Huang.

The Applicant next turns to the Examiner's rejection of claims 4, 6, 11, 13, 18, and 20 as being unpatentable over Huang in view of Takeo. As discussed above, the Huang text discusses applying all applicable preprocessing functions to raw image data at the acquisition gateway before the image data is stored at the PACS for retrieval by a PACS display workstation. The acquisition gateway processes and stores the data as preprocessed image data on the PACS. The PACS display workstations of Huang retrieve the preprocessed image data for display.

Takeo relates to reproducing an already generated image using two image reproducing devices or two different processing conditions. In Takeo, a previously generated visible image is reproduced by two image reproducing devices, such as CRT or LCD displays or laser printers (Abstract, col. 2, lines 47-54). The two image reproducing devices use different gradation characteristics in image reproduction (col. 2, lines 54-63).

Takeo does not relate to a PACS. Takeo directly sends output data to an output device. Takeo also does not preprocess data outside of the image processing means 1 that directly sends output data to one or more CRTs 3, 3' or LPs 4, 4' (Figures 1, 6A, 6B, col. 6, lines 1-31). Takeo does not teach or suggest partially preprocessing data and storing

partially preprocessed image data in a preprocessing database in a PACS network. Takeo is directed to reproducing coincident images on different displays (col. 1, lines 43-52, col. 2, lines 29-34 and 36-44).

Thus, Takeo does not teach or suggest the limitations of the claimed invention. For example, Takeo does not teach or suggest applying at least one and fewer than all of applicable preprocessing functions to raw image data. Takeo does not teach or suggest transmitting the partially preprocessing raw image data to a PACS network for storage in a preprocessing database. These limitations are recited in independent claims 1, 7 and 14. Takeo reproduces an image at a monitor or printer rather than preprocessing raw image data stored in a PACS.

Therefore, the Applicant respectfully submits that the claims of the present application are allowable over Takeo.

Furthermore, Huang and Takeo could not be combined to teach or suggest all of the limitations of the claimed invention. Huang relates to a PACS system, and Takeo relates to a dual-medium output system. Even assuming, for the sake of argument, that Takeo and Huang could be combined, the combination would not teach or suggest partially preprocessing raw image data and transmitting the partially preprocessed raw image data to a preprocessing database in a PACS system. The combination would output fully preprocessed data at a CRT and a printer. Thus, the Applicant respectfully submits that neither Huang nor Takeo teaches all of the limitations of the claimed invention.

CONCLUSION

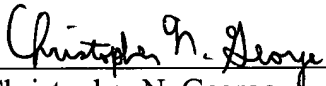
The Applicant submits that the present application is in condition for allowance.

If the Examiner has any questions or the Applicant can be of any assistance, the Examiner is invited and encouraged to contact the Applicant at the number below.

The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of GEMS-IT, Account No. 502401.

Respectfully submitted,

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